State of Illinois
ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

217/524-3300

April 5, 1993

Winnebago Reclamation Service, Inc.
Attn: Gary L. Marzorati
4920 Forest Hills Road
Loves Park, Illinois 61111

Re: 2018080001 -- Winnebago County
Pagel Landfill
Permit No. 1991-138-LF
Log No. 1991-138
Permit File

Issue Date: April 5, 1993
Expiration Date: April 5, 1998

Dear Mr. Marzorati:

Permit is hereby granted to Winnebago Reclamation Service, Inc., as owner and operator, allowing development of a new unit within the expanded boundaries of the above-referenced, existing facility all in accordance with the application and plans prepared by Andrews Environmental Engineering, Inc. Final plans, specifications, application, and supporting documents, as submitted and approved, shall constitute part of this permit and are identified in the records of the Illinois Environmental Protection Agency (the "Agency"), Bureau of Land, Division of Land Pollution Control by the permit number and log number designated in the heading above.

Specifically, Permit No. 1991-138 approves development of a new unit pursuant to 35 Illinois Administrative Code, Subtitle G ("35 IAC"), Parts 810, 811, 812 and 813. This new unit is labelled Phase 1 on Drawing No. 90-114-3, revised July 1992, and received by the Agency on July 13, 1992. The new unit has an area of approximately 27.5 acres and will have a final peak elevation of 856 feet above mean sea level with an "in-place" waste capacity of approximately 2,430,000 cubic yards. The new unit is being permitted as a putresible waste landfill and the types of waste disposed in it shall be limited to municipal waste and non-hazardous special waste.

The application approved by this permit consists of the following documents:

DOCUMENT	DATE RECEIVED
Original Application	April 12, 1991
Supplemental Filing	September 3, 1991
Addendum 1	October 21, 1991
Additional Information	April 14, 1992
Addendum 2	July 13, 1992
Additional Information	July 23, 1992

DOCUMENT	DATE RECEIVED
Additional Information	August 13, 1992
Additional Information	September 9, 1992
Additional Information	October 15, 1992
Additional Information	November 12, 1992
Addendum 3	February 11, 1993

Pursuant to Section 39(a) of Illinois Environmental Protection Act ("the Act") and 35 IAC, 813.104(b), this permit is issued subject to the development, operating and reporting requirements for non-hazardous waste landfills in 35 IAC Parts 810, 811, 812 and 813, the standard conditions attached hereto, and the following special conditions. In case of conflict between the permit application and these conditions (both standard and special), the conditions of this permit shall govern.

I. CONSTRUCTION QUALITY ASSURANCE

1. All necessary surface drainage control facilities shall be constructed prior to other disturbance in any area.

2. No part of the new unit shall be placed into service until a acceptance report for all the activities listed below has been submitted to and approved by this Agency as a significant modification pursuant to 35 IAC, 811.505(d) and 813.203.

   a. Compaction of the subgrade and foundation to design parameters;

   b. Installation of the compacted earth/synthetic liner;

   c. Installation of the leachate drainage and collection system; and

   d. Construction of ponds, ditches, lagoons and berms.

3. The permittee shall designate and independent third party contractor as the Construction Quality Assurance (CQA) Officer(s). The CQA Officer(s) shall be an Illinois Certified Professional Engineer who is independent from and not under the control or influence of the operator, any employee of the operator, or any other corporation, company or legal entity that is a subsidiary, affiliate, parent corporation or holding corporation associated with the operator.

4. All standards for testing the characteristics and performance of materials, products, systems and services shall be those established by the American Society for Testing and Materials (ASTM) unless otherwise stated in the permit application.

II. OPERATING CONDITIONS

1. Pursuant to 35 IAC, 811.107(a) and 811.107(b), throughout the operating life of this landfill, waste shall not be placed in a manner or at a rate which results in unstable internal or external slopes or interference with construction, operation or monitoring activities.

2. The operator of this solid waste facility shall not conduct the operation in a manner which results in any of the following:

   a. refuse in standing or flowing waters;

   b. leachate flows entering waters of the State;

   c. leachate flows exiting the landfill confines (i.e., the facility boundaries established for the landfill in a permit or permits issued by the Agency);

   d. open burning of refuse in violation of Section 9 of the Environmental Protection Act;

   e. uncovered refuse remaining from any previous operating day or at the conclusion of any operating day, unless authorized by permit;

   f. failure to provide final cover within time limits established by Board regulations;

   g. acceptance of wastes without necessary permits;

   h. scavenging as defined by Board regulations;

   i. deposition of refuse in any unpermitted (i.e., without an Agency approved significant modification authorizing operation) portion of the landfill;

   j. acceptance of a special waste without a required manifest;

   k. failure to submit reports required by permits or Board regulations;

   l. failure to collect and contain litter from the site by the end of each operating day.

3. Moveable, temporary fencing shall be used to prevent blowing litter when the refuse is above the natural ground line.

4. At the end of each day of operation all exposed waste shall be covered with clean soil at least six (6) inches thick.

5. Any alternate materials for daily cover must be approved by this Agency through the permit process pursuant to 35 IAC, 811.106(b), 812.111(b) and 813.201(a).

6. No later than 60 days after placement of the final lift of waste in any area, the area shall receive a final cover system consisting of three (3) feet of low permeability material overlain by three (3) feet of final protective layer as detailed in 35 IAC, 811.314. Compost may be used as a soil amendment in the vegetative component of the protective layer. However, it must be thoroughly incorporated and shall not constitute more than fifty percent of the soil/compost mixture.

7. All waste, which is not covered within 60 days of placement of another lift of waste or final cover, shall have an intermediate cover of compacted clean soil with a minimum thickness of one (1) foot applied to it.

8. The operator shall implement a load checking program that meets the requirements of 35 IAC, 811.323. If regulated hazardous waste or other unacceptable wastes are discovered, the Agency shall be notified no later than 5:00 p.m. the next business day after the day it is detected. The load checker shall prepare a report describing the results of each inspection. A summary of these reports shall be submitted to the Agency as part of this facility's annual report.

9. No special waste shall be received for disposal at this facility without a special waste stream permit granted by the Agency.

10. After a significant modification authorizing operation has been obtained for this new unit, all of the unexpired special waste stream permits issued to the old unit may be used to accept special waste for disposal in the new unit. This includes the special waste streams, which Permit No. 1990-519-SP allows to be accepted "generically".

11. Operating hours are those hours during which waste may be accepted. For this facility, the operating hours shall be limited to 7:00 a.m. - 6:00 p.m., Mondays through Fridays and 8:00 a.m. - noon on Saturdays. On Sundays and major holidays this facility shall not operate.

13. The operation of this facility shall not cause a violation of the Noise Control Regulations in 35 IAC Subtitle H, Section 901.

III. GENERAL CONDITIONS

1. This permit is issued with the expressed understanding that no process discharge to Waters of the State or to a sanitary sewer will occur from these facilities except as authorized by a permit issued by the Bureau of Water Pollution Control.

2. Site surface drainage, during development, during operation and after the site is closed, shall be managed in accordance with the approved drainage control plan.

3. If changes occur which modify any of the information the Permittee has used in obtaining a permit for this facility, the Permittee shall notify the Agency. Such changes would include but not be limited to any changes in the names or addresses of both beneficial and legal titleholders to the herein-permitted site. The notification shall be submitted to the Agency within fifteen (15) days of the change and shall include the name or names of any parties in interest and the address of their place of abode; or, if a corporation, the name and address of its registered agent.

4. The Agency reserves the right to require installation of additional monitoring devices, to require analyses for certain parameters, to alter the sample parameters list and to modify the method of evaluating the monitoring results as necessary to fulfill the intent and purpose of the Environmental Protection Act or Pollution Control Board Regulations.

5. This permit is subject to review and modification by the Agency as deemed necessary to fulfill the intent and purpose of the Environmental Protection Act, and all applicable environmental rules and regulations.

6. Pursuant to 35 IAC, 813.201(a), any modifications to this permit shall be proposed in the form of a permit application and submitted to the Agency.

7. Pursuant to 35 IAC, 813.301, an application for permit renewal shall be filed with the Agency at least 90 days prior to the expiration date of this permit.

IV. LEACHATE MANAGEMENT/MONITORING

1. The following monitoring points are to be used in the Leachate Monitoring Program for this facility:

Leachate Collection Manholes

Agency Designation

L301
L302
L303
L304

The application does not provide designations for the leachate collection manholes. Referring to Drawing No. 90-114-3, revised July, 1992, the Agency designations start at the southwest corner of Phase 1 and proceed northwards. Thus, under this nomenclature, the Cell 1 leachate collection manhole in the southwest corner is L301, the Cell 2 manhole is L302, the Cell 3 manhole is L303 and the Cell 4 manhole is L304.

2. Pursuant to 35 IAC 811.309(g), 811.319(a)(1)(C)(ii), 810.103, 722.111 and 721, Subpart C, leachate monitoring (i.e., sampling, measurements and analysis) must be started at each leachate collection manhole when that manhole accumulates a measurable quantity of leachate for the first time. The concentrations or values for the parameters contained in List L1 (below) shall be determined on a quarterly basis for each "producing" manhole and submitted with the quarterly groundwater reports. The concentrations for the parameters contained in Lists L2 and L3 (also below) shall be determined annually. Condition IV.3. presents the sampling, testing and reporting schedules in tabular form. Leachate monitoring at each manhole shall continue as long as groundwater monitoring at this landfill is necessary pursuant to 35 IAC, 811.319(a)(1)(C).

LIST L1

Routine Leachate Monitoring Parameters	STORET
Temp. of Leachate Sample (°F)	00011
Specific Conductance	00094
pH	00400
Elevation Leachate Surface	71993
BTM of Well Elevation	72020
Leachate Level from Measuring Point ft.	72109
Arsenic (total)	01002
Barium (total)	01007
Cadmium (total)	01027
Chromium (hexavalent)	01032
Chromium (total)	01034
Copper (total)	01042
Cyanide	00720
Fluoride	00951
Iron (total)	01045

LIST L1
(continued)

Lead (total)	01051
Manganese (total)	01055
Nickel (total)	01067
Oils (hexane soluble or equivalent)	00550
Phenols	32730
Silver (total)	01077
Zinc (total)	01092
Total Dissolved Solids	70300
Total Suspended Solids	00530
Ammonia Nitrogen - N	00610
Bacteria (Fecal Coliform)	31616
Biochemical Oxygen Demand(BOD5)	00310
Mercury (total)	71900
Nitrogen, Ammonia - N	00610
Phosphorous	00665
COD	00335

LIST L2

Annual Leachate Monitoring Parameters	STORET
Temp. of Leachate Sample (°F)	00011
Specific Conductance	00094
pH	00400
Elevation Leachate Surface	71993
BTM of Well Elevation	72020
Leachate Level from Measuring Point ft.	72109
1,1,1,2-Tetrachloroethane	77562
1,1,1-Trichloroethane	34506
1,1,2,2-Tetrachloroethane	34516
1,1,2-Trichloroethane	34511
1,1-Dichloroethane	34496
1,1-Dichloroethylene	34501
1,1-Dichloropropene	77168
1,2,3-Trichlorobenzene	77613
1,2,3-Trichloropropane	77443
1,2,4-Trichlorobenzene	34551
1,2,4-Trimethylbenzene	77222
1,2-Dibromo-3-Chloropropane	38760
1,2-Dichloroethane	34531
1,2-Dichloroethylene (Dichloroacetylene)	77090
1,2-Dichloropropane	34541
1,3,5-Trimethylbenzene	77226
1,3-Dichloropropane	77173
1,3-Dichloropropene	34561
1,4-Dichloro-2-Butane	
1,4-Diflurobenzene	

LIST L2
(continued)

1-Butanol Phenol	
1-Propanol	77018
2,2-Dichloropropane	77170
2,4,5-tp (Silvex)	39760
2,4,6-Trichlorophenol	34621
2,4-Dichlorophenol	34601
2,4-Dichlorophenoxyacetic Acid (2,4-D)	39730
2,4-Dimethylphenol	34606
2,4-Dinitrotoluene	34611
2,4-Dinitrophenol	34616
2,6-Dinitrotoluene	34626
2-Chloroethyl Vinyl Ether	34576
2-Chloronaphthalene	34581
2-Chlorophenol	34586
2-Hexanone	77103
2-Propanol (Isopropyl Alcohol)	81310
3,3-Dichlorobenzidine	34631
4,4-DDD	39310
4,4-DDE	39320
4,4-DDT	39300
4,6-Dinitro-O-Cresol	34657
4-Bromofluorobenzene	
4-Bromophenyl Phenyl Ether	34636
4-Chlorophenyl Phenyl Ether	34641
4-Methyl-2-Pentanone	78133
4-Nitrophenol	34646
Acenaphthene	34205
Acetone	81552
Acrolein	34210
Acrylonitrile	34215
Alachlor	77825
Aldicarb	39053
Aldrin	39330
Alpha - BHC	39337
Aluminum	01105
Ammonia Nitrogen - N	00610
Anthracene	34220
Antimony	01097
Aroclor-1016	34671
Aroclor-1221	39488
Aroclor-1232	39492
Aroclor-1242	39496
Aroclor-1248	39500
Aroclor-1254	39504
Aroclor-1260	39508
Arsenic (total)	01002
Atrazine	39033
Bacteria (Fecal Coliform)	31616

LIST L2
(continued)

Barium	01007
Benzene	34030
Benzo (a) Anthracene	34526
Benzo (a) Pyrene	34247
Benzo (b) Fluoranthene	34230
Benzo (ghi) Perylene	34521
Benzo (k) Fluoranthene	34242
Beryllium (total)	01012
Beta - BHC	39338
Bicarbonate	
Biochemical Oxygen Demand (BOD_5	00310
Bis (2-Chloro-1-Methylethyl) Ether	73522
Bis (2-Chloroethoxy) Methane	34278
Bis (2-Chloroethyl) Ether	34273
Bis (2-Ethylhexyl) Phthalate	39100
Bis(Chloromethyl)Ether	34268
Boron	01022
Bromobenzene	81555
Bromochloromethane	77297
Bromodichloromethane	32101
Bromoform	32104
Bromomethane	34413
Butanol	45265
Butyl Benzyl Phthalate	34292
Cadmium (total)	01027
Calcium	00916
Carbofuran	81405
Carbon Disulfide	77041
Carbon Tetrachloride	32101
Chemical Oxygen Demand (COD)	00335
Chlordane	39350
Chloride	00940
Chlorobenzene	34301
Chloroethane	34311
Chloroform	32106
Chloromethane	34418
Chromium	
Chromium	01034
Chrysene	34320
Cis-1,2-Dichloroethylene	77093
Cis-1,3-Dichloropropene	34704
Cobalt	01037
Copper (total)	01042
Cyanide	00720
DDT 39370	
Delta - BHC	46323
Di-N-Butyl Phthalate	39110

LIST L2
(continued)

Di-N-Octyl Phthalate	34596
Dibenzo (a,h) Anthracene	34556
Dibromochloromethane	32105
Dibromomethane	77596
Dichlorodifluormethane	34668
Dieldrin	39380
Diethyl Phthalate	34336
Dimethyl Phthalate	34341
Endosulfan I	34361
Endosulfan II	34356
Endosulfan Sulfate	34351
Endrin	39390
Endrin Aldehyde	34366
Ethyl Acetate	81585
Ethyl Methacrylate	73570
Ethylbenzene	78113
Ethylene Dibromide (EDB)	77651
Fluoranthene	34376
Fluorene	34381
Fluoride	00951
Gross Alpha (pci/L)	80045
Heptachlor Epoxide	39420
Heptachlor	39410
Hexachlorobenzene	39700
Hexachlorobutadiene	39702
Hexachlorocyclopentadiene	34386
Hexachloroethane	34396
Ideno (1,2,3-cd) Pyrene	34403
Iodomethane	77424
Iron	01045
Isophorone	34408
Isopropylbenzene	77223
Lead	01051
Lindane	39782
Magnesium	00927
Manganese	01055
Mercury	71900
Methoxychlor	39480
Methyl Chloride	34418
Methyl Ethyl Ketone	81595
Methylene Bromide	77596
Methylene Chloride	34423
Naphthalene	34696
Nickel	01067
Nitrate-Nitrogen	00620
Nitrobenzene	34447
Oil, Hexane Soluable (or Equivalent)	00550 (00556, 00560)

LIST L2
(continued)

Parathion	39540
Pentachlorophenol	39032
Phenanthrene	34461
Phenol	32730
Phosphorous	00665
Polychlorinated Biphenyls	39516
Potassium	00937
Pyrene	34469
Radium-226	09501
Radium-226 (counting error)	09502
Radium-228	11501
Radium-228 (counting error)	11502
Selenium	01147
Silver	01077
Sodium	00929
Strontium-90	13501
Styrene	77128
Sulfate	00945
Tert-Butylbenzene	77353
Tetrachlorodibenzo-p-Dixoins	34675
Tetrachloroethylene	34475
Tetrahydrofuran	81607
Thallium	01059
Tin	01102
Toluene	34010
Total Dissolved Solids (TDS)	70300
Total Organic Carbon (TOC)	00680
Total Suspended Solids	00530
Toxaphene	39400
Trans-1,2-Dichloroethylene	34546
Trans-1,3-Dichlorpropene	34699
Trichloroethylene	39180
Trichlorofluoromethane	34488
Tritium	82126
Vanadium	01087
Vinyl Acetate	77057
Vinyl Chloride	39175
Xylene	81551
Zinc	01092
m-Dichlorobenzene	34566
m-Xylene	77134
n-Butylbenzene	77342
n-Nitrosodimethylamine	34438
n-Nitrosodiphenylamine	34433
n-Nitrosodipropylamine	34428
n-Propylbenzene	77224
O-Chlorotoluene	
o-Dichlorobenzene	34536

LIST L2
(continued)

o-Nitrophenol	34591
o-Xylene	77135
p-Chlorotoluene	
p-Cresol	77146
p-Dichlorobenzene	34571
p-Isopropyltoluene	
p-Nitrophenol	34646
p-Xylene	77133
sec-Butylbenzene	77350

LIST L3
RCRA Parameters for Leachate

Ignitability	STORET
Flashpoint, Pensky-Martens Closed Cup (°F)	00497
Corrosivity	
pH	00400
Reactivity	
Reactive Cyanide	99040
Reactive Sulfide	99042
Toxicity (TCLP)	
Arsenic	99012
Barium	99014
Cadmium	99016
Chromium	99018
Chromium, Hexavalent	99019
Lead	99020
Mercury	99022
Selenium	99024
Silver	99026
Endrin	99028
Lindane	99030
Methoxychlor	99032
Toxaphene	99034
2,4-D	99036
2,4,5-TP Silvex	99038
Benzene	99128
Carbon tetrachloride	99050
Chlordane	99148
Chlorobenzene	99096
Chloroform	99149
o-Cresol	99150
m-Cresol	99151
p-Cresol	99152
Cresol	99153

LIST L3
(continued)

1,4-Dichlorobenzene	99154
1,2-Dichloroethane	99155
1,1-Dichloroethylene	99156
2,4-Dinitrotoluene	99157
Heptachlor (and its epoxide)	99158
Hexachlorobenzene	99159
Hexachloro-1, 3-Butadiene	99160
Hexachloroethane	99161
Methyl Ethyl Ketone	99060
Nitrobenzene	99062
Pentachlorophenol	99064
Pyridine	99066
Tetrachloroethylene	99068
Trichloroethylene	99076
2,4,5-Trichlorophenol	99078
2,4,6-Trichlorophenol	99080
Vinyl Chloride	99162

Notes for all leachate monitoring parameters:

a. The test methods for leachate monitoring shall be those approved in the USEPA's Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW846), Third Edition or the equivalent thereof.

b. All parameters shall be determined from unfiltered samples.

Notes specific to RCRA parameters:

a. Flashpoint shall be reported in degrees Fahrenheit. The parameters for reactivity and toxicity shall be reported in parts per million.

b. In some instances, analyses for "totals" may be substituted for the reactive and TCLP parameters as described on Pages 9 and 10 of the enclosed "Instructions [for] Special Waste Stream Application - (1991-Revised Green Sheet)."

3. Leachate monitoring data shall be collected and reported to this Agency in accordance with the following schedule:

SAMPLING PERIODS	MONITORING POINTS	PARAMETER LIST	REPORT DUE DATE
January or February	L302, L303, L304 and L305	List L1	April 15
	L301 and L306	Lists L2 & L3	

SAMPLING PERIODS	MONITORING POINTS	PARAMETER LIST	REPORT DUE DATE
April or May	L301, L303, L304 and L306	List L1	July 15
	L302 and L305	Lists L2 & L3	
July or August	L101, L102, L104, L105 and L106	List L1	October 15
	L303	Lists L2 & L3	
October or November	L301, L302, L303, L305 and L306	List L1	January 15
	L304	Lists L2 & L3	

4. Pursuant to 35 IAC 811.309(g)(1), any chemical constituent in List L1 that is not detected in the leachate, may be deleted from List L1. However, if subsequently in annual monitoring that constituent is detected, it shall be added back to List L1. All changes to the leachate parameter lists must be approved by the Agency through the permit process.

5. Pursuant to 35 IAC, 811.309(h)(1), leachate from this landfill shall be collected and disposed of beginning as soon as it is first produced and continuing for at least five (5) years after closure. Collection and disposal of leachate may cease only when the conditions described in 35 IAC, 811.309(h)(2) have been achieved. Leachate removed from this landfill shall be treated at an IEPA permitted facility in accordance with the leachate management plan proposed in the Permit Application, Log No. 1991-138-LF.

6. Pursuant to 35 IAC, 811.307(a) and (b), 811.308(a) and (h), and 811.309(a), and as described in Drawing Nos. 90-114-e and 90-114-3, dated April 1991, leachate shall be pumped from the leachate collection manholes, L301-L304, whenever it rises above the respective influent pipe inverts. This shall be done throughout the period that the leachate collection/management system must be operated in accordance with Condition IV.5.

7. In the event that the leachate monitoring program detects a constituent in the leachate that is not already in the parameter lists for the groundwater monitoring program, the operator shall, within 90 days of such detection, submit to the Agency a permit application which either:

a. Proposes to add the constituent to the groundwater monitoring program; or

b. Demonstrates why adding the constituent to the groundwater monitoring program is not necessary or appropriate.

V. GROUNDWATER MONITORING

1. The groundwater monitoring program must be capable of determining background groundwater quality hydraulically upgradient of and unaffected by the units and to detect, from all potential sources of discharge, any releases to groundwater within the facility. This Agency reserves the right to require installation of additional monitoring wells as may be necessary to satisfy the requirements of this permit.

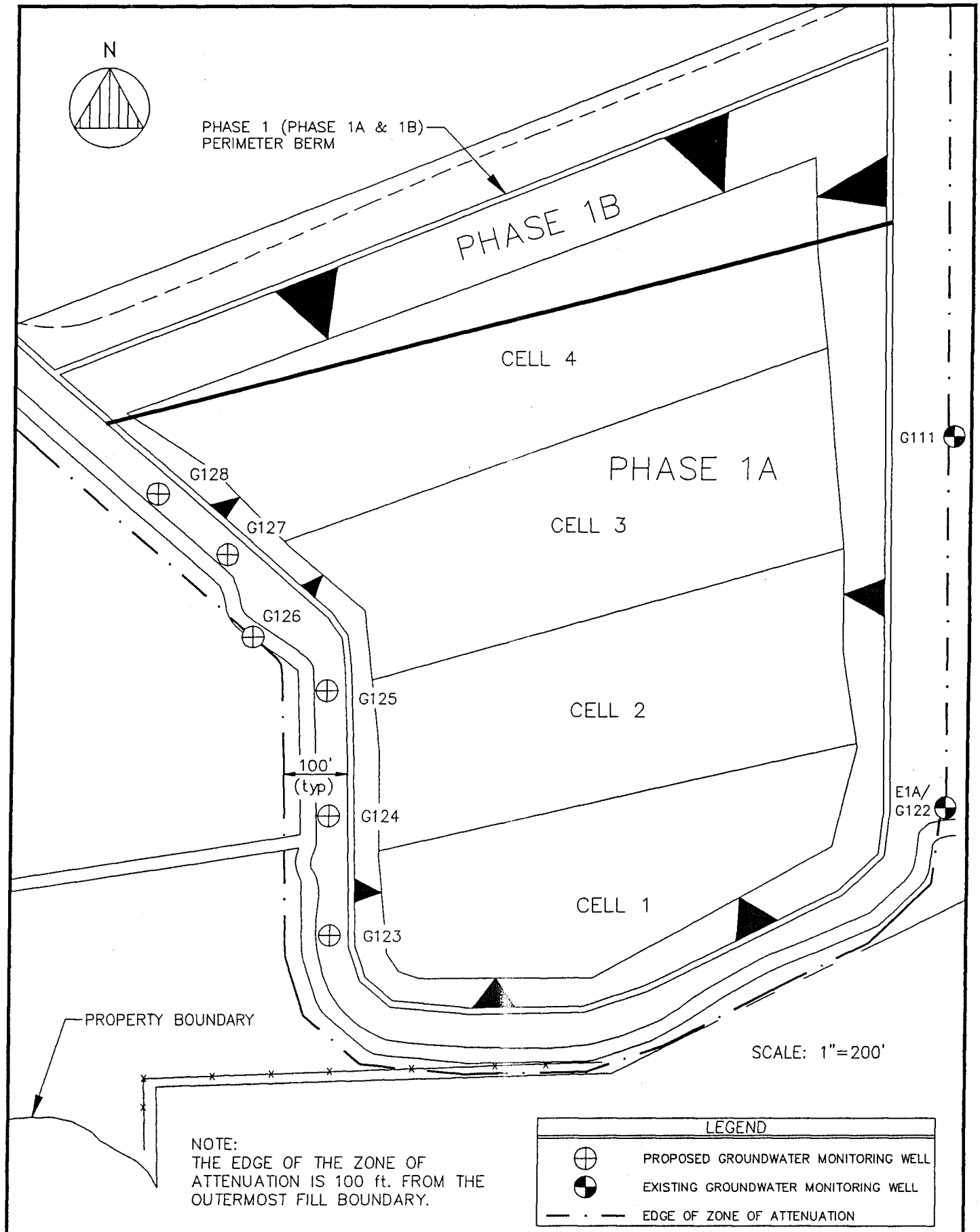
2. The groundwater monitoring wells shall be constructed and maintained in accordance with the requirements of 35 IAC, 811.318(d) and designs approved by the Agency.

3. Groundwater monitoring wells shall be installed in the locations shown in Figure 1, Item 3, Addendum 2B of Log No. 1991-138, and screened in the hydrogeologic unit(s) identified as potential contaminant pathway(s) within the uppermost aquifer. The groundwater monitoring wells G110, G113/G113A, G114, B13/P6, R105 and G11A, shown in Drawing No. 90-114-2, dated April, 1991, shall also be included in the groundwater monitoring system for the new unit. To further augment the groundwater monitoring system, an additional nested well (G29S/G29D) shall be installed at the location of E2/E2A shown in Drawing No. 90-114-2. Finally, at the location of G126, shown in Figure 1, Item 3, Addendum 2B, another nested well (G26S/G26D) shall be installed. The screen depths for the shallow wells shall be approximately 710-700 feet MSL and approximately 690-680 for the deep wells.

   Documentation of installation and proper development of all the groundwater monitoring wells for the new unit shall be included with (or submitted prior to) the first application for a significant modification requesting authorization to operate the new unit. This documentation shall be provided for both those wells which have already been installed and those which have not yet been constructed.

4. Within 60 days of installation of any groundwater monitoring well, boring logs compiled by a qualified geologist, well development data and as-built diagrams shall be submitted to the Agency utilizing the enclosed "Well Completion Report" form. For each well installed pursuant to this permit, one form must be completed.

5. Groundwater monitoring wells shall be easily visible, labelled with their Agency monitoring point designations and fitted with padlocked protective covers.



ANDREWS ENVIRONMENTAL ENGINEERING, INC.
3535 MAYFLOWER BOULEVARD
SPRINGFIELD, ILLINOIS 62707 (217) 787-2334

DATE: 7/92	FIGURE 1	DRAWING NO. 90-114-F1

PROPOSED MONITORING WELLS

6. In the event that any well becomes consistently dry or unserviceable and therefore require replacement, a replacement well shall be installed within ten (10) feet of the existing well. The Agency shall be notified in writing at least 15 days prior to the installation of all replacement wells. A replacement well that is more than ten feet from the existing well or which does not monitor the same geologic zone is considered to be a new well and must be approved via a significant modification permit.

7. All borings/wells not used as monitoring points shall be backfilled in accordance with the enclosed IEPA monitoring well plugging procedures. The decommissioning and reporting procedures, contained in the Illinois Department of Public Health's Water Well Construction Code, 77 IAC, Part 920 (effective 1/1/92), shall also be followed.

8. Elevation of stick-up is to be surveyed and reported to the Agency when:

   a. The well is installed (with the as-built diagrams),

   b. Every two years thereafter, or

   c. Whenever there is reason to believe that the elevation has changed.

9. Groundwater sampling and analysis shall be performed in accordance with the requirements of 35 IAC 811.318(e) and the specific procedures and methods approved by the Agency.

10. The applicable groundwater quality standards (AGQS) for the facility are given below in Lists G1 and G2 and subject to the following conditions:

Note:

   a. Temperature and the field parameters involving depth or elevation are not considered groundwater constituents and do not need AGQS's.

   b. For constituents which have not been detected in the groundwater, the practical quantitation limit (PQL) shall be used as the AGQS.

   c. AGQS values must be determined for all of the parameters which appear in Lists G1 and G2 without AGQS's. These shall be proposed in a permit application to be submitted to the Agency no later than August 1, 1994. The AGQS values shall be calculated using four (4) consecutive quarters of groundwater monitoring data and employing the statistical method described in the Attachment 20, Volume IV to Log No. 1991-138. Thus, by July 1, 1993, all of the background groundwater quality wells listed in Condition V.11. shall be installed.

LIST G1 (Groundwater - Quarterly)

FIELD PARAMETERS	STORETS	AGQS
pH	00400	
Specific Conductance	00094	
Temperature of Water Sample (°F)	00011	
Depth to Water (ft. below land surface)	72019	
Depth to Water (ft. below measuring point)	72109	
Elevation of Measuring Point (Top of casing ft. MSL)	72110	
Elevation of Groundwater Surface (ft. MSL)	71993	
Elevation of Bottom of Well (ft. MSL)	72020	

INORGANIC PARAMETERS	STORETS	AGQS
Ammonia (as Nitrogen)	00608/ 82230	90
Boron	01022	
Boron (Dissolved)	01020	10
Chloride (MG/L)	00940	
Chloride (Dissolved, MG/L)	00941	33.29
Total Dissolved Solids (TDS, Dried at 180°C) (Dissolved)	70300	
Total Organic Carbon (TOC) (Dissolved	00680	
Total Organic halogens, (TOX, ug/l) (Dissolved)	78115	

ORGANIC PARAMETERS	STORETS	AGQS
Acetone	81552	100
Benzene	34030	5
1,4-Dichlorobenzene	34571	5
cis-1,2-Dichloroethene	77093	5
Ethylbenzene	78113	5
2-Butanone	81595	10
Toluene	34010	5
Xylenes	81551	5
Napthalene	34696	10
P-Isopropyltoluene	34723	5
Phenols	32730	10
Tetrahydrofuran	81607	7
Total Organic Carbon (TOC) (Dissolved)	00680	
Total Organic halogens, (TOX, ug/l) (Dissolved)	78115	

LIST G2 (Groundwater - Annual)

FIELD PARAMETERS	STORETS	AGQS
pH	00400	
Specific Conductance	00094	
Temperature of Water Sample (°F)	00011	
Depth to Water (ft. below land surface)	72019	
Depth to Water (ft. below measuring point)	72109	
Elevation of Measuring Point (Top of casing ft. MSL)	72110	
Elevation of Groundwater Surface (ft. MSL)	71993	
Elevation of Bottom of Well (ft. MSL)	72020	

INORGANIC PARAMETERS	STORETS	AGQS
Alkalinity ($CaCO_3$, MG/L)	00410	
Aluminum	01105	
Aluminum (Dissolved)	01106	
Ammonia (as Nitrogen)	00608/ 82230	90
Antimony	01097	
Antimony (Dissolved)		
Arsenic	01002	
Arsenic (Dissolved	01000	7.1
Barium	01007	
Barium (Dissolved)	01005	246.2
Beryllium	01012	
Beryllium (Dissolved)		0.8
Boron	01022	
Boron (Dissolved)	01020	10
Cadmium	01027	
Cadmium (Dissolved)	01025	1.1
Calcium (Dissolved, MG/L)	00915	85.5
Calcium (MG/L)	00916	
Chloride (MG/L)	00940	
Chloride (dissolved, MG/L)	00941	33.29
Chromium	01034	
Chromium (Dissolved)	01030	6.6
Cobalt	01037	
Cobalt (Dissolved)	01035	70
Copper	01042	
Copper (Dissolved)	01040	60
Cyanide (MG/L)	00720	0.0143
Fluoride (Dissolved, MG/L)	00950	0.03
Fluoride (MG/L)	00951	
Iron	01045	
Iron (Dissolved)	01046	1635
Lead	01051	
Lead (Dissolved)	01049	1.6
Magnesium (Dissolved, MG/L)	00925	62.96
Magnesium (MG/L)	00927	
Manganese	01055	
Manganese (Dissolved)	01056	8
Mercury	71900	
Mercury (Dissolved)	71890	0.2
Nickel	01067	
Nickel (Dissolved)	01065	50
Nitrate (as N)	00620	
Nitrate (as N) (Dissolved)	00618	10740
Phenol (O, M and P)	32730	10
Potassium (Dissolved, MG/L)	00935	36.49
Potassium (MG/L)	00937	
Radium-226	09501	
Radium-226 (counting error)	09502	
Radium-228	11501	

INORGANIC PARAMETERS (continued)	STORETS	AGQS
Radium-228 (counting error)	11502	
Selenium	01147	
Selenium (Dissolved)	01145	5
Silver	01077	
Silver (Dissolved)	01075	4
Sodium (Dissolved, MG/L)	00930	
Sodium (MG/L)	00929	
Strontium - 90	13501	
Sulfate (Dissolved, MG/L)	00946	67
Sulfate (MG/L)	00945	
Thallium	01059	
Thallium (Dissolved)		80
Tritium	82126	
Vanadium	01087	
Vanadium (Dissolved)	01085	6
Zinc	01092	
Zinc (Dissolved)	01090	1338

ORGANIC PARAMETERS	STORETS	AGQS
1,1 Dichloroethane	34496	5
1,1 Dichloroethene	34501	5
1,1,1 Trichloroethane	34506	5
1,1,1-2-Tetrachloroethane	77562	5
1,1,2,2-Tetrachloroethane	34516	5
1,2-Dichloroethane	34531	5
1,2-Dichloropropane	34541	5
1,1-Dichloropropene	77168	5
1,3-Dichloropropane	77173	5
1,3-Dichloropropene	34561	5
2,2-Dichloropropane	77170	5
2,4-Dichlorophenoxyacetic Acid (2,4-D)	39730	10
2,4,5-tp (Silvex)	39760	2
√ 1,2,3-Trichlorobenzene -a	77613	5
1,2,3-Trichloropropane	77443	5
1,2,4-Trichlorobenzene	34551	5
√ 1,2,4-Trimethylbenzene -a	77222	5
√ 1,3,5-Trimethylbenzene -a	77226	5
√ 1,2-Dibromo-3-Chloropropane -a	38760	5
1,2-Dichlrooethylene (or ethene) (Dichloroacetylene	77090	5
1,4 Dichlorobenzene	34571	5
2-Butanone (MEK)	81595	10
2-Hexanone*	77103	50
Acetone	81552	100
√ Atrazine -a	39033	3
Benzene	34030	5
∪ Bis (chloromethyl) Ether - a	34268	

ORGANIC PARAMETERS (continued)	STORETS	AGQS
Bromoform	32014	5
Bromomethane (Methyl Bromide)	34413	10
Butyl Benzyl Phthalate	78721	5
✓ CarboFuran - a	81405	
Carbon Tetrachloride	32102	5
Chlordane	39350	10
Chlorobenzene	34301	5
Chlorodibromomethane (Dibromochloromethane)	32105	5
Chloroethane	34311	10
Chloroform	32106	5
Chloromethane (Methyl Chloride)	34418	10
Cis-1,2-Dichloroethylene	77093	5
Cresols*	79778	10
DDT	39370	
Dibromomethane (Methylene Bromide)	77596	5
Dichlorodifluoromethane	34668	5
Dieldrin	38380	10
Ethyl Benzene	78113	5
✓ Ethylene Dibromide (EDB) (1,2-Dibromoethane) - a	77651	5
Gross Alpha (pci/L)		
Heptachlor	39410	10
Heptachlor Epoxide	39420	10
Hexachlorobutadiene	39702	10
✓ Hexanes - a	81590	
Iodomethane	77424	
✓ Isopropylbenzene - a	77223	5
Lindane	39782	10
Methoxychlor	39480	10
Methylene Chloride (Dichloromethane)	34418	10
Napthalene	34696	10
Oil (Hexane-Soluable or Equivalent) MG/L	00550	
Parathion - a	39540	10
Pentachlorophenol	39032	50
Phenols	32730	10
Polychlorinated Biphenyls	39516	5
Styrene	77128	5
✓ Tert-Butylenzene - a	77353	5
Tetrachloroethene	34475	5
Tetrahydrofuran	81607	7
Toluene	34010	5
Toxaphene	39400	10
Trans-1,2 Dichloroethene	34546	5
Trichloroethene	39180	10
Vinyl Chloride	39175	2
Xylenes (Total)	81551	5

ORGANIC PARAMETERS (continued)	STORETS	AGQS
m-Dichlorobenzene	34566	5
m-Xylene	77134	5
n-Butylbenzene	77342	5
n-Propylbenzene	77224	5
o-Chlorotoluene	77970	
o-Dichlorobenzene	34536	5
o-Xylene	77135	5
p-Chlorotoluene	77970	
p-Isopropyltoluene	34723	5
p-Xylene	77133	5
sec-Butylbenzene	77350	5

Note:

i. All parameters with the "(Dissolved)" label to the right shall be determined using groundwater samples which have been filtered through a 0.45 micron filter. All other parameters shall be determined from unfiltered samples.

ii. The applicable groundwater quality standards (AGQS) are given in ug/l except as otherwise noted. Also, the monitoring results should be reported in ug/l units unless otherwise indicated.

11. The following monitoring points are to be used in the groundwater monitoring program for this facility:

Background Groundwater Quality Wells

Applicant Designation	Agency Designation
G111	G11S
G11A	G11D
G122	G22S
E1A	G22D

Zone of Attenuation Wells

R105	R105
G110	G110
G113	G13S
G113A	G13D
G114	G114
B13	G16S
P6	G16D
G123	G123
G124	G124
G125	G125
G127	G127
G128	G128
	G29S
	G29D

Point of Compliance Monitoring Wells

G126

G26S
G26D

Note: S - Shallow
D - Deep

12. The approved monitoring program shall begin immediately upon installation of the groundwater monitoring wells pursuant to Condition V.3., shall continue for at least fifteen (15) years after closure and shall not cease until the conditions described in 35 IAC, 811.319(a)(1)(C) have been achieved. The operator shall collect samples from all of the monitoring points listed in Condition V.11, test the samples for the parameters listed in Condition V.10 (Lists G1 and G2) and report the results to this Agency, all in accordance with the following schedule:

Sampling Period	Parameter List	Report Due Date
January or February	List G1	April 15
April or May	List G1	July 15
July or August	List G1	October 15
October or November	List G2	January 15

13. Elevation of groundwater surface (ft. MLS), Storet No. 71993, shall be measured at all groundwater monitoring points listed in Condition V.11. on a monthly basis. The measurements shall be submitted quarterly in accordance with schedule listed above.

14. A complete listing of MAPCs for each parameter listed in Condition V.10. for each zone of attenuation well identified in Condition V.11. shall be proposed in a permit application either prior to or as part of the first application for a significant modification requesting authorization to operate the new unit.

15. Pursuant to 35 IAC, 811.319(a)(4)(A), any of the following events shall constitute an observed increase:

    a. The concentration of any parameter given in G1 of Condition V.10. shows a progressive increase over four (4) consecutive quarters within the zone of attenuation.

    b. The concentration of any parameter given in List G1 or List G2 of Condition V.10. exceeds the MAPC at an established monitoring point.

    c. The concentration of any organic parameter in List G2, monitored in accordance with Condition V.10.:

i. Exceeds the preceding measured concentration at any established point; and

ii. Is greater than or equal to its practical quantitation limit (PQL).

d. The concentration of any constituent monitored at or beyond the zone of attenuation exceeds its AGQS.

16. For each round of sampling described in Condition V.12., the operator must determine if an observed increase has occurred within 45 days of the date the samples were collected. If an observed increase is identified, the operator must also notify the Agency in writing within 10 days and follow the confirmation procedures of 35 IAC, 811.319(a)(4)(B). Furthermore, the operator must complete the confirmation procedures within 90 days of the initial sampling event.

17. Within 90 days of confirmation of any monitored increase, the operator shall submit a permit application for a significant modification to begin an assessment monitoring program in order to determine whether the solid waste disposal facility is the source of the contamination and to provide information needed to carry out a groundwater impact assessment in accordance with 35 IAC 811.319(b).

18. The observed increase criteria and determinations described in Conditions V.15. and V.16. apply to all of the groundwater monitoring wells listed in Condition V.11. except the existing wells R105, G110, G13S, G13D, G114, G16S and G16D. For these existing wells, trend analysis shall be performed using intra-well data and the results shall be summarized in the annual report described in Condition VIII.2.

VI. LANDFILL GAS MANAGEMENT/MONITORING

1. The gas monitoring probes within the waste boundary described in Permit Application, Log No. 1991-138, shall be installed and put into service within 90 days after final cover has been applied to the various areas in which they are located. Documentation that all of the gas monitoring probes outside the waste boundary and the methane monitoring devices within on-site buildings have been installed shall be included with the first application for a significant modification requesting authorization to operate the new unit.

2. The gas monitoring probes both inside and outside the waste boundary shall be monitored for the following parameters:

a. Methane;
b. Pressure;

c. Nitrogen;
d. Oxygen; and
e. Carbon Dioxide

3. The ambient air monitoring devices described in the Permit Application, Log No. 1991-138, shall be used to test the air downwind of the landfill for methane.

4. All buildings within the facility boundaries shall be monitored continuously for methane.

5. Gas monitoring shall begin immediately after the first significant modification authorizing operation of the new unit is issued, shall continue for at least fifteen (15) years after closure and may be discontinued only after the conditions described in 35 IAC, 811.310(c)(4) have been achieved.

6. Sampling and testing of the gas monitoring probes and ambient air monitoring shall be performed at least monthly throughout the new unit's operating life and during the first five (5) years after its closure. Then during the remainder of the post-closure care period, this monitoring frequency may be reduced to quarterly.

7. In the event of any of the occurrences listed below, the operator shall, within 180 days of the occurrence, submit to the Agency an application for a significant modification either proposing a gas collection/management system or demonstrating that the new unit is not the cause of the occurrence.

   a. A methane concentration greater than 50 percent of the explosive limit in air is detected in any of the below ground monitoring devices outside the waste boundary;

   b. A methane concentration greater than 50 percent of the explosive limit in air is detected during ambient air monitoring;

   c. A methane concentration greater than 25 percent of the explosive limit in air is detected in any building on or near the facility; or

   d. Malodors, attributed to the unit, are detected beyond the property boundary.

8. The gas probes shall be inspected at least monthly for structural integrity and proper operation.

9. The results from gas monitoring for each year, ending on March 31, shall be submitted to the Agency in the annual report required by 35 IAC, 813.501.

10. At the end of the post-closure care period, the gas monitoring probes shall be decommissioned. The probes outside the waste boundary shall be decommissioned using the method described in the enclosed Agency monitoring well plugging procedure guidance. In decommissioning the probes within the waste boundaries, the pipes shall be cut off at least two (2) feet below the low permeability layer and plugged. Then the low permeability layer, the protective layer and the vegetation shall be restored in the excavated areas.

VII. CLOSURE/POST CLOSURE CARE

1. Upon completion of closure activities, the operator shall notify the Agency that the site has been closed in accordance with the approved closure plan utilizing the Agency's "Affidavit for Certification of Completion of Closure of Non-Hazardous Waste Facilities".

2. Inspections of the closed landfill shall be conducted in accordance with the approved post-closure care plan. Records of field investigations, inspections, sampling and corrective action taken are to be maintained at the site and made available to IEPA personnel. During the post-closure care period, these records are to be maintained at the office of the site operator.

3. If necessary, the soil over the entire planting area shall be amended with lime, fertilizer and/or organic matter. On sideslopes, mulch or some other form of stabilizing material is to be provided to hold seed in place and conserve moisture.

4. When the post-closure care period has been completed, the operator shall notify the Agency utilizing the Agency's "Affidavit for Certification of Completion of Post-Closure Care for Non-Hazardous Waste Facilities".

5. The current cost estimate for closure and post-closure care of the new unit, provided in the Permit Application, Log No. 1991-138, pursuant to 35 IAC, 811.704, is shown in the Table below. As part of (or prior to) the application for the first significant modification authorizing operation pursuant to 35 IAC, 813.203, the operator shall revise this cost estimate to reflect the modifications entailed by the permit conditions of Permit No. 1991-138-LF. For example, there are leachate and groundwater monitoring points and parameters required by the permit conditions, which were not proposed in the permit application. The cost of sampling the additional points and of analyzing for the additional parameters during the post-closure care period will increase the post-closure care cost estimate.

The Table below shows the current closure/post-closure care cost estimate for the new unit in its entirety. The annual increases reflect the fact that the post-closure care cost estimate has been reduced to its present worth.

DATE	AMOUNT OF FINANCIAL ASSURANCE REQUIRED
Day this permit is issued:	$810,446
First anniversary:	$823,418
Second anniversary:	$836,908
Third anniversary:	$850,938
Fourth anniversary:	$865,529

6. The operator shall provide financial assurance for closure and post-closure care pursuant to 35 IAC, 811.700(b). Documentation of this financial assurance must be submitted with the application for the first significant modification to authorize operation. The receipt of waste in the new unit shall not be approved until adequate documentation of 35 IAC, 811.700(b) financial assurance has been provided. However, 35 IAC, 811.700(b) financial assurance shall be required only for those areas for which authorization to operate has been obtained or is being requested.

7. The operator shall increase the total amount of financial assurance so as to equal the current cost estimate within 90 days of an increase in the current cost estimate in accordance with 35 IAC, 811.701(b).

VIII. REPORTING REQUIREMENTS

1. Within 90 days of the date of issuance of Permit No. 1991-138-LF, the operator shall submit to this Agency a map of the facility with a scale no smaller than one (1) inch equals 200 feet. This map shall show:

   a. The facility boundaries;

   b. The permitted waste boundaries of both the old unit and the new unit;

   c. All on-site buildings; and

   d. All groundwater, leachate and gas monitoring points for the new unit.

On the map, each monitoring point shall be labelled with its own individual designation. For the leachate and groundwater monitoring points, the Agency designations given in this permit letter shall be used. The gas monitoring points shall be labelled using a logical nomenclature developed by the operator or the consultant.

2. This landfill's annual report for each year, ending on March 31, shall be submitted to the Agency by May 1, pursuant to 35 IAC, 813.501. The annual report shall include:

   a. A waste volume summary which includes:

      i. Total volume of solid waste accepted at the facility during the past year in cubic yards as measured at the gate;

      ii. The remaining solid waste capacity in the unit in cubic yard as measured at the gate; and

      iii. A copy of all identification reports required under 35 IAC 811.404.

   b. Monitoring data from the leachate collection system, groundwater monitoring network, and gas monitoring system including:

      i. Graphical results of monitoring efforts;

      ii. Statistical summaries and analysis of trends;

      iii. Changes to the monitoring program; and

      iv. Discussion of error analysis, detection limits and observed trends.

   c. Proposed activities for the upcoming year including:

      i. Amount of waste expected;

      ii. Structures to be built; and

      iii. New monitoring stations to be installed.

   d. Any significant modification affecting the operation of the facility.

   e. The signature of the operator or duly authorized agent as specified in 35 IAC, 812.104.

3. In addition to the annual report, the quarterly reports on groundwater and leachate monitoring shall be submitted to the Agency in accordance with the schedules described in Conditions IV.3. and V.12, pursuant to 35 IAC, 813.501.

4. The original and two (2) copies of all certifications, logs, reports and plan sheets and three (3) copies of groundwater monitoring chemical analysis forms which are required to be submitted to the Agency by the permittee should be mailed to the following address:

Illinois Environmental Protection Agency
Planning and Reporting Section
Division of Land Pollution Control -- #24
2200 Churchill Road
Post Office Box 19276
Springfield, Illinois 62794-9276

Very truly yours,

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control
Bureau of Land

LWE:CJL:sf/sp/206Y,1-28
B

Enclosures: 1. Instructions [for] Special Waste Stream Application (1991-Revised Green Sheet)
2. Well Completion Report Form
3. Monitoring Well Plugging Procedures
4. Affidavit for Certification of Completion of Closure of Non-Hazardous Waste Facilities
5. Affidavit for Certification of Completion of Post-Closure Care for Non-Hazardous Waste Facilities

cc: Andy Rathsack, P.E., Andrews Environmental Engineering, Inc.